



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,242	03/27/2001	Ricardo Cozar	Q63781	8040

7590 08/05/2003

SUGHRUE, MION, ZINN  
MACPEAK & SEAS  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3213

EXAMINER

COLON, GERMAN

ART UNIT	PAPER NUMBER
----------	--------------

2879

DATE MAILED: 08/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/817,242	COZAR ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	German Colón	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 8 and 9 is/are allowed.
- 6) ☒ Claim(s) 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Amendment*

1. The Amendment, filed on June 25, 2003, has been entered and acknowledged by the Examiner.
2. Cancellation of claim 6 has been entered.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Misumi et al. (US 4,713,576).

Misumi discloses a shadow mask made of an Fe-Ni alloy comprising, by weight percent:  $30 \leq \text{Ni} \leq 50$  (see Col. 4, lines 55-57) and  $\text{Co} \leq 10$  (see Col. 5, lines 25-30). Misumi is silent regarding the amount of Cu. However, claim 7 allows a chemical composition having Cu in an amount of 0%. Thus, Misumi discloses an Fe-Ni alloy satisfying the following formula:  $30 \leq \text{Ni} + \text{Co} + \text{Cu} \leq 60$ , which overlaps the claimed composition of " $33.5 \leq \text{Ni} + \text{Co} + \text{Cu} \leq 37$ ".

Also, Misumi teaches said Fe-Ni alloy to further include an amount of, by weight percent,  $\text{Mn} < 2$  and  $\text{Si} < 1$  (see Col. 5, lines 16-20) to serve as a deoxidant and desulfurizer. Misumi is silent regarding the amount of C, S and P. However, claim 7 allows a chemical composition having C, S and P in an amount of 0%.

Furthermore, Misumi teaches the advantage of including an amount of Nb, Ta, Zr (see Col. 5, lines 1-3), Mo and W (see Col. 5, lines 5-11) to the Fe-Ni alloy in order to strengthen the mask, provide a low thermal expansion coefficient and to facilitate the manufacture of said mask. The amount of Nb, Ta, Mo, W and Zr should not exceed 10 wt% (see Col. 5, lines 21-24) to avoid an undesirably high thermal expansion coefficient.

The balance of said alloy comprises iron and impurities resulting from smelting.

While Misumi discloses the broader ranges of " $30 \text{ wt\%} \leq \text{Ni} + \text{Co} + \text{Cu} \leq 60 \text{ wt\%}$  and  $0 \text{ wt\%} < \text{Nb} + \text{Ta} + \text{Mo} + \text{W} + \text{Zr} \leq 10 \text{ wt\%}$ ", it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an alloy having the composition formula, by weight percent, " $33.5 \leq \text{Ni} + \text{Co} + \text{Cu} \leq 37$  and  $0.2 \leq \text{Nb} + \text{Ta} + \text{Mo} + \text{W} + \text{Zr} \leq 2$ ", since it is considered to be within the ordinary skill in the art to adjust, vary or optimize numerical parameter or values of any system absent a showing of criticality in a particular recited value.

#### ***Allowable Subject Matter***

5. Claims 1-5, 8 and 9 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:

The Examiner notes that the Prior Art of Record discloses a masking device for a flat-screen CRT, comprising a tensioned shadow mask and a support frame, said tensioned shadow mask and support frame being made of a hardened Fe-Ni alloy.

Regarding claim 1, the references of the Prior Art of Record fail to teach or suggest the combination of the limitations as set forth in claim 1, and specifically comprising the limitation of "below a temperature  $T_1$  the mean expansion coefficient  $\alpha$  of the Fe-Ni alloy of which the support frame is made being greater than the mean expansion coefficient  $\alpha$  of the Fe-Ni alloy of which the shadow mask is made; and above a temperature  $T_1$  the mean expansion coefficient  $\alpha$  of the Fe-Ni alloy of which the support frame is made is less than the mean expansion coefficient  $\alpha$  of the Fe-Ni alloy of which the shadow mask is made". This mask-frame structure reduces sensitivity to local heating, has a suitable natural vibration frequency and has good flatness after the high-temperature heating resulting from manufacturing operations.

Referring to claims 2-5, 8 and 9, claims 2-5, 8 and 9 are allowable for the reason given in claim 1, because of their dependency status from claim 1.

### ***Response to Arguments***

7. Applicant's arguments with respect to claim 7, filed June 25, 2003, have been fully considered but they are not persuasive.

Applicants argue that claim 7 does not read on the disclosure of Misumi et al. (US 4,713,576) and that claim 7 further incorporates limitations from allowable claim 2.

However, Misumi discloses a shadow mask having an Fe-Ni alloy comprising:  $30 \leq \text{Ni} \leq 50 \text{ wt\%}$  (see Col. 4, lines 55-57) and  $0 \leq \text{Co} \leq 10 \text{ wt\%}$  (see Col. 5, lines 25-30). Misumi is silent regarding the amount of Cu, C, S and P, nevertheless, applicants claim allows a chemical composition having Cu, C, S and P in an amount of 0%.

Further, Misumi teaches the advantage of including an amount of Si, Mn (see Col. 5, lines 16-20), Nb, Ta, Zr (see Col. 5, lines 1-3), Mo and W (see Col. 5, lines 5-11) to the Fe-Ni alloy in order to strengthen the mask, provide a low thermal expansion coefficient and to facilitate the manufacture of said mask. Misumi establishes a limiting upper value for the quantity of said elements in the alloy. The amount of: Si should not exceed 1 wt%, Mn should not exceed 2 wt% and (Nb, Ta, Mo, W and Zr) should not exceed 10 wt% (see Col. 5, lines 21-24) to avoid an undesirably high thermal expansion coefficient.

The balance of said alloy comprises iron and impurities resulting from smelting.

Thus, Misumi discloses an Fe-Ni alloy satisfying the following formulas, by weight percent:  $30 \leq \text{Ni} + \text{Co} + \text{Cu} \leq 60$  and  $0 < \text{Nb} + \text{Ta} + \text{Mo} + \text{W} + \text{Zr} \leq 10$ , which overlap the claimed composition of " $33.5 \leq \text{Ni} + \text{Co} + \text{Cu} \leq 37$  and  $0.2 \leq \text{Nb} + \text{Ta} + \text{Mo} + \text{W} + \text{Zr} \leq 2$ ".

While the Prior Art ranges are broader than the claimed in the instant application, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an alloy having the composition formula, by weight percent, " $33.5 \leq \text{Ni} + \text{Co} + \text{Cu} \leq 37$  and  $0.2 \leq \text{Nb} + \text{Ta} + \text{Mo} + \text{W} + \text{Zr} \leq 2$ ", since it is considered to be within the ordinary skill in the art to adjust, vary or optimize numerical parameter or values of any system absent a showing of criticality in a particular recited value.

Further, the Examiner clarifies that claim 2 is allowable because it includes allowable subject matter of claim 1. The incorporation of the limitations of claim 2 into claim 7 will not necessarily render claim 7 allowable.

For the reasons stated above, the rejection of claim 7 is deemed proper.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 703-305-5987. The examiner can normally be reached on Monday thru Friday, from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 703-305-4794. The fax phone numbers for the

Art Unit: 2879

organization where this application or proceeding is assigned are 703-308-7382 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
gc  
July 29, 2003



**VIP PATEL  
PRIMARY EXAMINER**